

REMARKS/ARGUMENTS:**Summary of Amendments to the Claims**

Applicants have canceled claims 1-51 and added new claims 52-93 to more particularly define the invention. Support of the term "an inanimate surface" is found on page 10, lines 1-2 and Examples 2-7, which all describe applications of the flash-dry disinfectant composition of the present invention to inanimate surfaces such as ceiling tile, gypsum, metal and carpet. Support of the term "a remainder component" is found on page 4, line 11. No new matter is believed to have been added by the amendments.

Claims Rejections – 35 U. S. C. § 103

The Examiner rejected claims 28-35 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,916,568 to Smyth et al. ("Smyth et al.") in view of U.S. Patent No. 6,049,002 to Mattila et al. ("Mattila et al.") and further in view of EP 0 842 605 A1 to Petri ("Petri"). The rejections are moot in view of the cancellation of these claims.

Applicants respectfully submit that new claims 52-93 are patentable over the cited prior art.

Smyth et al. discloses a flash-dry disinfectant composition for use as a hand wash, comprising:

- (1) about 55% to about 80% by weight of a C₂-C₅ alcohol;
- (2) about 15% to about 35% by weight of hydrogen peroxide solution; and
- (3) about 5% to about 10% by weight of a bacteriostatic skin emollient.

The hydrogen peroxide solution used in Smyth et al. is 9% hydrogen peroxide solution as shown in the EXAMPLE in column 3. Therefore, the Smyth et al. composition comprises:

- (1) about 55% to about 80% by weight of a C₂-C₅ alcohol;
- (2) about 1.35% to about 3.15% by weight of hydrogen peroxide; and
- (3) about 5% to about 10% by weight of a bacteriostatic skin emollient.

Smyth et al. further teaches in column 2, lines 57-59 that "the concentration of hydrogen peroxide is preferably about 2.7% by weight of the total composition", which falls within the range shown above.

In contrast, the claimed invention relates to a liquid flash-dry disinfectant composition for disinfecting an inanimate surface, comprising:

- (1) about 3% to about 30% by volume of hydrogen peroxide;
- (2) about 10% to about 85% by volume of a flash vaporization component and,
- (3) a remainder component.

If the unit is converted to a percentage by weight unit as used in Smyth et al., the composition of the claimed invention comprises:

- (1) about 4.6% to about 43.1 % by weight of hydrogen peroxide;
- (2) about 7.1% to about 80.4 % by weight of a flash vaporization component and,
- (3) a remainder component.

The Smyth et al. composition which comprises 1.35%-3.15%, preferably 2.7%, by weight of hydrogen peroxide, does not anticipate or render obvious the composition of the present invention, which comprises 4.6% to 43.1% by weight of hydrogen peroxide. The higher concentration of hydrogen peroxide of the claimed invention is not obvious from Smyth et al.. Smyth et al. is directed to a composition for applying to skin, which cannot tolerate higher concentrations of hydrogen peroxide. Hydrogen peroxide at higher concentrations may cause skin irritation and possible skin burns. Because of the significant detrimental effects of hydrogen peroxide on the skin, those skilled in the art would not raise the concentration of hydrogen peroxide over the range 1.35%-3.15% by weight taught by Smyth et al., especially when it specifically teaches that 2.7% by weight is preferred. Those skilled in the art certainly would not raise the concentration of hydrogen peroxide by over 50% to arrive at the claimed invention.

Furthermore, the Smyth et al. composition does not flash dry on inanimate surfaces because it contains a skin emollient such as glycerine and tea tree oil. As described in the EXAMPLE of Smyth et al, to use the composition, an adequate quantity of solution was applied to thoroughly

wet the skin of the hands and the solution was distributed by rubbing the hands together to distribute the solution over the entire skin area. The skin emollient is then absorbed by the skin. The Smyth et al. composition if sprayed onto an inanimate surface without rubbing into a skin, would not leave an essentially dry surface but instead would leave a greasy surface due to the presence of the skin emollient, which does not vaporize. Therefore, the present invention is not anticipated or rendered obvious by Smyth et al.

Mattila et al. teaches a method for preparing aqueous solutions comprising performic acid formed by reaction of formic acid and hydrogen peroxide. In the method taught by Mattila et al., 30 wt. % hydrogen peroxide is used as a starting material for a chemical reaction. It does not teach a disinfectant composition comprising hydrogen peroxide, much less the concentration of hydrogen peroxide in such a composition.

Petri describes a sprayable composition for disinfecting animate surfaces. The composition comprises a peroxygen bleach, an essential oil and a shear thinning polymeric thickener. Although the Petri composition is also sprayable, it is for disinfecting animate surfaces, not inanimate surfaces as in the claimed invention.

Mattila et al. and Petri do not supplement the elements of the present invention that are missing from Smyth et al.. Mattila et al. and Petri in combination with Mattila et al. and Petri still would not arrive at the present invention. Therefore, Applicants respectfully submit that the claimed invention is patentable over the cited prior art.

Additionally, Applicants submit the attached test results as evidence in support of the superior sterilizing effect of the claimed invention on an inanimate surface over the prior art. The data shows that a composition comprising 3% by volume of hydrogen peroxide in accordance with the present invention has superior performance against spores on glasses over compositions comprising 1 and 2% by volume of hydrogen peroxide. 3% by volume of hydrogen peroxide, which falls within the scope of the claimed invention, is approximately 4.6% by weight of hydrogen peroxide. 1% and 2% by volume of hydrogen peroxide are approximately 1.5% and 3% by weight of hydrogen peroxide respectively, which fall within the hydrogen peroxide range

taught by Smyth et al.. As shown in the attached test results, the performance of 2% by volume of hydrogen peroxide in reducing BG spores on glasses is not much different from 1% by volume of hydrogen peroxide, but 3% by volume of hydrogen peroxide has significantly improved sterilizing effect on glasses against spores. Therefore, the test results further support that the present invention is unobvious over the prior art.

In view of the foregoing, Applicants respectfully submit that the claimed invention is patentable over the cited prior art.

Conclusion

Based on the foregoing amendments and remarks, favorable consideration and allowance of all of the claims now present in the application are respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal respects in order to place the case in condition for final allowance, then it is respectfully requested that such amendment or correction be carried out by Examiner's Amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, the Examiner is invited to telephone the undersigned.

The Commissioner is authorized to charge any required fees, including any extension and/or excess claim fees, any additional fees, or credit any overpayment to Goodwin Procter LLP Deposit Account No. 06-0923.

Respectfully submitted for Applicant,



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